## REMARKS

Claims 2, and 14-17 have been cancelled without prejudice to filing in a later application. Claims 1, 3 and 6-10 have been amended. Upon entry of the above amendments and following remarks, claims 1 and 3-13 will be pending in the present application.

Applicants note that the amendment to claim 1 adds no new matter and is supported by the application as filed. For example, original claim 2; the specification at page 5, lines 5-7; the specification at page 5, lines 7-8; the specification at page 5, from line 7; and page 6 lines 11-13.

In addition, the claims have been amended to correct typographical errors.

## REJECTION UNDER 35 U.S.C. §112, SECOND PARAGRAPH

Claims 1-13 have been rejected under 35 U.S.C. §112, second paragraph, wherein it has been asserted that the claims are "indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention". In particular, the Examiner states that claim 1 contains improper Markush language and is incomplete with respect to the polyaluminum compounds recited in claim 2. Applicants have amended claim 1 so as to obviate any proper rejection under 35 U.S.C. §112, second paragraph.

Claim 2 has been cancelled without prejudice to filing in a later application. As such, any proper rejection under 35 U.S.C. §112, second paragraph has been obviated.

Claims 3-13 depend either directly or indirectly from amended claim 1. As such, a proper rejection under 35 U.S.C. §112, second paragraph cannot be made.

## CLAIM REJECTIONS 35 U.S.C. §103

In order to properly make a prima facie case of obviousness, a motivation or suggestion to combine or modify the references must be shown. MPEP at §2143.01.

Rejection of Claims 1-13 Under 35 U.S.C. §103(a) Improper

Claims 1-13 have been rejected under 35 U.S.C. §103(a) as being unpatentable over United States Patent No. 6,120,690 to Haase in view of United States Patent No. 4,362,643 to Kuo et al. and in further view of United States Patent No. 4,588,508 to Allenson et al.

Claim 2 has been cancelled without prejudice to filing in a later application. As such, any proper rejection of claim 2 under 35 U.S.C. §103(a) has been obviated.

The rejection of claims 1 and 3-13 under 35 U.S.C. 103(a) is improper for, at least, the reason that there is no motivation or suggestion to modify the teachings of Haase with the teachings of Kuo and Allenson to arrive at the Applicants' claimed invention, which includes an aqueous solution having at least one polyaluminum compound; 0.2 to 7 weight parts magnesium, calcium, or magnesium and calcium in the form of a compound that forms a neutral or acid anion; and which includes 0.3 to 10 weight parts of one or more organic, water-soluble polymeric flocculents selected from the group consisting of the polyamines, polydiallyldimethylammonium chloride (polyDADMAC), polyethylenimine acetates, and polyethylenimines and wherein the composition contains 2.0 to 20 parts magnesium and 3.0 to 60 weight parts polymeric flocculants based on 100 weight parts aluminum, and has a pH range of 0.3 to 4. In stark contrast, Haase does not teach or suggest any limitation as to the amounts of aluminum polymer and polyDADMAC. In addition, as recognized by the Examiner, Haase does disclose a composition that includes magnesium or calcium. Furthermore, the Kuo et al. does not teach or suggest the use of polymeric flocculents, such as polyDADMAC and/or magnesium in combination with a polyaluminum-iron halide, and Allenson et al. fails to teach or suggest any limitation as to the amount of magnesium chloride in relation to polyDADMAC and also fails to disclose a polyaluminum compound. Simply stated, the Examiner's asserted combination of the teachings of Haase, Kuo, and Allenson finds no motivation or suggestion in the cited references themselves or, as discussed below, in the knowledge of one of skill in the art at the time of the invention.

Applicants' disclosure, for example at page 4, lines 6-7, clearly is directed toward a composition that includes the properties of being ready-to-use and having a high-storage stability. As is well known in the pertinent art, a mixture of a polyaluminum compound and a polymeric flocculant, such as polyDADMAC, possesses an undesirably high viscosity which contributes to the final composition having a viscosity too high to be considered acceptable as a ready-to-use product for controlled admixture to water. In addition, it is also well known in the pertinent art that the long-term storage stability of a mixture of polymeric flocculent, such as polyDADMAC, and a polyaluminum compound is poor. Haase, for example at column 2, lines 58-66, teaches and suggests only that aluminum polymers are chemically combined with a quaternary polymer, such as DADMAC, either prior to storage at a water production facility or during a chemical cleaning process of the water production facility.

Haase, Kuo, and Allenson simply do not contemplate an aqueous solution having at least one polyaluminum compound; 0.2 to 7 weight parts magnesium, calcium, or magnesium and calcium in the form of a compound that forms a neutral or acid anion; and which includes 0.3 to 10 weight parts of one or more organic, water-soluble polymeric flocculents selected from the group consisting of the polyamines, polydiallyldimethylammonium chloride (polyDADMAC), polyethylenimine acetates, and polyethylenimines and wherein the composition contains 2.0 to 20 parts magnesium and 3.0 to 60 weight parts polymeric flocculents based on 100 weight parts aluminum, and has a pH range of 0.3 to 4.

In addition, to the deficiencies of the Haase teachings, the Allenson et al. and Kuo et al. references do not teach or suggest a composition that includes the properties of being ready-to-use and having a high-storage stability as are present in the presently claimed invention. For example, Kuo et al. does not teach or suggest the use of polymeric flocculents, such as polyDADMAC, and/or magnesium in combination with a polyaluminum-iron halide. The Allenson et al. also fails to teach any limitation as to the amount of magnesium chloride in relation to polyDADMAC and fails to disclose a polyaluminum compound. It is clear that the Examiner's proposed combination of teachings found in the cited references finds

no motivational or suggestive basis in either the references or in the knowledge found in the art at the time of the present invention. As such, a rejection of claims 1 and 3-13 under 35 U.S.C. §103 is improper.

**Differences Between the Cited References and Claimed Invention Are NOT Obvious**

The M.P.E.P. at §2141.02 clearly discusses the requirement that an examiner should ascertain "the differences between the prior art and the claims at issue" by "interpreting the claim language, and considering both the invention and the prior art references as a whole". These differences with regard to 35 U.S.C. §103 "is not whether the differences themselves (emphasis in original) would have been obvious, but whether the claimed invention as a whole (emphasis in original) would have been obvious. Statoflex, Inc. v. Aeroquip Corp., 713 F.2d 1530, 218 USPQ 871 (Fed. Cir 1983); Schenck v. Norton Corp., 713 F.2d 782, 218 USPQ 698 (Fed. Cir.). In addition, the courts have clearly stated, and the M.P.E.P. explicitly recognizes, that "a patentable invention may lie in the discovery of the source of a problem even though the remedy may be obvious once the source of the problem is identified. This is part (emphasis in original) of the 'subject matter as a whole' which should always be considered (emphasis added) in determining the obviousness of an invention under 35 U.S.C. §103. In re Sponnoble, 405 F.2d 578, 585, 160 USPQ 237, 243 (CCPA 1969)". M.P.E.P. at §2141.02. Furthermore, "[a]pplicants who allege they discovered the source of a problem must provide evidence substantiating the allegation, either by way of affidavits or declarations, or by way of a clear and persuasive assertion in the specification. In re Wiseman, 596 F.2d 1019, 201 USPQ 658 (CCPA 1979)". Applicants have fully complied with this requirement.

Clearly, the present claimed invention, which includes an aqueous solution having at least one polyaluminum compound; 0.2 to 7 weight parts magnesium, calcium, or magnesium and calcium in the form of a compound that forms a neutral or acid anion; and which includes 0.3 to 10 weight parts of one or more organic, water-soluble polymeric flocculents selected from the group consisting of the

polyamines, polydiallyldimethylammonium chloride (polyDADMAC), polyethylenimine acetates, and polyethylenimines and wherein the composition contains 2.0 to 20 parts magnesium and 3.0 to 60 weight parts polymeric flocculants based on 100 weight parts aluminum, and has a pH range of 0.3 to 4, is directed toward the problem wherein "previously available products based on polyaluminum have problems because of their low storage stability at the user's facility and because of the low stability and reliability of the biological purification process". Applicants' Specification, page 2, ¶2. In addition, it is a clear object of the invention "to serve as a ready-to-use composition of matter having a high-storage stability." Applicants' Specification, page 4, ¶3. Furthermore, when embodiments of the claimed invention were utilized in wastewater treatment plants, there were, among other things: sedimentation "...not possible with conventional precipitating agents"; more effective adjustment "to the desired purification performance than had been possible with conventional formulations"; increased species diversity present in the activated sludge that was "significantly higher than it would be compared with conventional formulations; and that they advantageously "are in an optimal, ready-to-use concentration and can be filled into containers, delivered, stored, and used in the waste treatment plant in undiluted form". Therefore, it is clear that the Applicants' have provided a clear and persuasive assertion in the specification that the claimed invention not only patentably differs from the cited references, but also shows the Applicants discovered the source of the problem of low storage stability and use constraints of conventional solutions. As such, a rejection of claims 1 and 3-13 is improper under 25 U.S.C. §103.

In summary, Applicants have addressed each of the rejections within the present Office Action by the above Remarks. It is believed the Application now stands in condition for allowance and a prompt favorable action thereon is earnestly solicited.

Respectfully submitted,

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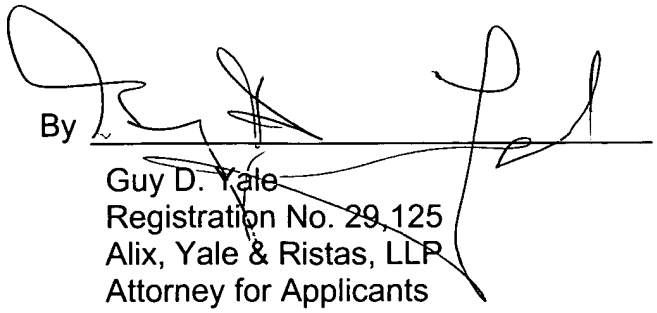

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